## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- (Original) A process for obtaining a population of cells enriched in viable human liver cells, including hepatic stem/progenitor cells, comprising:
- (a) digesting a whole human liver or resection thereof with a proteolytic enzyme preparation to provide a digested whole human liver or resection thereof:
- (b) dissociating the digested whole human liver or resection thereof to provide a suspension of cells;
- (c) adjusting the density of the medium in which the cells are suspended whereby at least two bands of cells separated by a density barrier are obtained upon centrifugation, at least one band of the at least two bands being of a lower density than another band of the at least two bands; and
- (d) collecting the at least one band of lower density to obtain a
  population of cells enriched in viable human liver cells, including hepatic stem/progenitor cells.
- (Original) The process of claim 1 in which the population of cells enriched in viable human liver cells further includes functional hepatocytes.
- (Original) The process of claim 1 in which the population of cells enriched in viable human liver cells further includes functional biliary cells.
- (Original) The process of claim 1 in which the population of cells enriched in viable human liver cells further includes functional hemopoietic cells.
  - 5. (Previously presented) The process of claim 1 in which step (a) includes:
- (e) perfusing the whole human liver or resection thereof with a chelation buffer;

- (f) digesting the whole human liver or resection thereof with an enzyme preparation comprising collagenase and at least one other proteolytic enzyme at approximately 37°C to provide a digested liver.
- (Original) The process of claim 5 in which the enzyme preparation includes at least one neutral protease.
- (Original) The process of claim 5 in which the enzyme preparation includes elastase.
- (Previously presented) The process of claim 5 in which the enzyme preparation comprises both collegenase and neutral protease.
- (Original) The process of claim 1 in which said dissociation includes mechanical dissociation.
- (Original) The process of claim 9 in which said dissociation includes mechanical dissociation by cutting, raking, combing, or grating the liver.
- 11. (Previously presented) The process of claim 1 in which step (c) includes at least one of:
  - (h) filtering the cell suspension to remove debris and cell aggregates;
  - (i) collecting the resulting filtered cell suspension in a first bag;
  - (j) optionally determining a concentration of cells in the filtered cell
- (k) adjusting, if desired, the concentration of cells to provide a starting cell suspension;
  - (l) mixing an aliquot of the starting cell suspension with an equal

suspension:

volume of 25% iodixanol solution in a culture medium to provide a mixture; and

- (m) subjecting at least a portion of the mixture overlaid with a predetermined volume of the culture medium to centrifugation to obtain at least one band enriched for viable human liver cells.
- 12. (Previously presented) The process of claim 1 in which step (d) includes at least one of:
  - (n) collecting the at least one band into a container on ice;
  - determining viability and concentration of cells;
- (p) washing the cells by centrifugation and resuspension in a cryopreservation buffer to obtain a final cell suspension;
- (q) subjecting the final cell suspension to controlled rate freezing to provide a frozen cell suspension; and
  - (r) storing the frozen cell suspension in a liquid nitrogen freezer.
- (Original) The process of claim 5 in which said collection buffer comprises RPMI 1640 medium with 10% human or bovine serum.
- (Original) The process of claim 11 in which said filtering step includes passing said cell suspension through a filter cartridge.
- (Previously presented) The process of claim 11 in which said culture medium comprises RPMI 1640 medium lacking phenol red.
- $16. \qquad \hbox{(Original) The process of claim 11 in which said centrifugation is carried out for about 15 min at approximately $500 x g.}$ 
  - 17. (Original) The process of claim 12 in which said container includes a

collection bag.

- 18. (Original) The process of claim 12 in which the cryopreservation buffer comprises a mixture including Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>2+</sup>, Mg<sup>2+</sup>, Cl<sup>-</sup>, H<sub>2</sub>PO<sub>4</sub>, HCO<sub>3</sub><sup>-</sup>, HEPES, lactobionate, sucrose, mannitol, glucose, Dextran-40, adenosine, glutathione, or combinations thereof.
- (Original) The process of claim 18 in which the cryopreservation buffer further comprises serum and dimethylsulfoxide.
- 20. (Original) The process of claim 19 in which the mixture, serum and dimethylsulfoxide are present in a ratio of approximately 80:10:10 v/v/v.
- (Original) The process of claim 19 in which the serum comprises human serum, bovine serum, or a combination thereof.
- (Original) The process of claim 1 in which the density of the medium is adjusted by the use of an aqueous solution of iodixanol or iohexol.
- 23. (Original) The process of claim 22 in which the aqueous solution of iodixanol or iohexol comprises sterile 60% (w/v) iodixanol in water, and equivalent density of iohexol in water, or a combination thereof.
- 24. (Original) The process of claim 1 in which the density of the medium is adjusted by the use of an aqueous solution of a hydrophilic polymer of sucrose.
- 25. (Original) The process of claim 24 in which the aqueous solution of a hydrophilic polymer of sucrose comprises ficoll, ficoll plus diatrizoate with calcium EDTA, or a combination thereof.
- 26. (Original) The process of claim 1 in which the enriched population of cells includes hepatic progenitor/stem cells having a diameter in the range between 9 and 13 microns and which are positive for expression of EP-CAM, CD133, or both.

- 27. (Previously presented) A process for obtaining an enriched population of viable human liver cells, which population of cells comprises functional hepatocytes and hepatic stem/progenitor cells, comprising:
- (a) providing a whole human liver or resection thereof from neonatal, pediatrie, juvenile, adult, or cadaver donor;
- (b) perfusing the whole human liver or resection thereof with a chelation buffer;
- (c) digesting the whole human liver or resection thereof with an enzyme preparation to provide a cell suspension;
- (d) optionally, mechanically dissociating the whole liver or resection thereof to provide a cell suspension;
  - (e) optionally, removing debris and cell aggregates;
- (f) mixing the cell suspension with an equal volume of iodixanol solution;
- (g) subjecting the resulting mixture overlaid with a predetermined volume of culture medium to centrifugation to obtain at least two bands of cells separated by a density barrier, at least one band being of a lower density than another band bands; and
  - (h) collecting the at least one band of lower density.
- 28. (Original) The process of claim 27 in which the enriched population of cells is enriched in hepatic progenitor/stem cells having a diameter in the range between about 9 and about 13 microns and which are positive for expression of EP-CAM, CD133, or both.

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- 88. (Previously presented) The process of claim 27 in which the perfusing is carried out with a chelation buffer
- (Previously presented) The process of claim 27 in which the enzyme preparation comprises collegenase, elastase, or both.
- 90. (Previously presented) The process of claim 27 in which the removing of debris and cell aggregates is carried out by passing the cell suspension through a filter cartridge.
- (Previously presented) The process of claim 27 in which the iodixanol solution is in RPMI 1640 medium.
- 92. (Currently amended) The process of claim [[1]] <u>97</u> in which the density of at least one band of lower density is less than 1.0792.
- 93. (Currently amended) The process of claim [[1]] <u>97</u> in which the density of at least one band of lower density is 1.0607.
- 94. (Previously presented) A method of obtaining an enriched population of viable human liver cells, which population of cells comprises functional hepatocytes and hepatic stem/progenitor cells, comprising:
  - (a) providing a whole human liver or resection thereof;
- (b) digesting the whole human liver or resection thereof to provide a suspension of liver cells;
- (c) mixing an aliquot of the suspension of liver cells with a solution of iodixanol;
- (d) centrifuging the resulting mixture to obtain at least one band enriched for viable cells; and

- (e) collecting the at least one band of viable cells.
- 95. (Previously presented) The method according to claim 94 in which the liver is from neonatal, pediatric, juvenile, adult, or cadaver donor.
- 96. (Previously presented) The method of claim 94 in which the digesting is performed with an enzyme preparation comprising collagenase, elastase or a combination thereof.
- 97. (Previously presented) The method of claim 94 in which the solution of iodixanol comprises 25% (w/v) iodixanol in water.
- (Previously presented) The method of claim 94 in which the solution of iodixanol lacks phenol red.
- 99. (Previously presented) The method of claim 94 further comprising overlaying the resulting mixture of liver cells and solution of iodixanol with a predetermined volume of medium lacking phenol red prior to the centrifuging step.
- 100. (Previously presented) The method of claim 94 in which the centrifuging is performed on a COBE™ 2991 Cell Processor.